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LINQCELL **ALK-PCS500**

Polyphenylene Sulfide/Ceramic Composite Separator

- Low internal resistance
- High gas barrier properties
- Optimized separator for large-scale and high-pressure alkaline water electrolyzers

LINQCELL ALK-PCS500 is a composite separator made of a polyphenylene sulfide (PPS) mesh matrix reinforced with a ceramic nano coating. The polymeric matrix provides high strength and high-pressure resistance from its sponge-like pore structure. The ceramic coating adds hydrophilicity, which improves water management during electrolysis. Additionally, the polymeric binder with nanopores in the dense coating enhances gas barrier properties, preventing gas crossover and mixing during operation.

As an electrolyte separator for alkaline water electrolyzers, **LINQCELL ALK-PCS500** offers significant advantages over conventional market solutions. It features low internal resistance, excellent gas barrier properties, and a high bubble point pressure. It can also be stored dry for up to 15 days, adding to its practical usability. Overall, this Separator is an ideal choice for large-scale (1000 Nm^3/h) atmospheric and high-pressure alkaline water electrolyzers.

LINQCELL ALK-PCS500 is available in rolls with a maximum width of 210 cm.

Specifications

Property	Value	Unit
Thickness	500 ± *50*	µm
Porosity	55 ±10	%
Bubble Point	2–6	bar
Area Specific Resistance *80 °C, 30% KOH*	<0.20	$\Omega \cdot cm^2$
Tensile Strength	27.5 ± *2.5*	MPa
Elongation at Break	20	%
Maximum Operating Temperature	110	°C

Instructions for Use

1. Optimal performance is typically achieved after 2–3 days of stable electrolyzer system operation.
2. Large separator sheets can be rolled up for transportation to facilitate easier handling during assembly.
3. To maintain flexibility and structural integrity, immerse the separator in deionized water to keep it moist. This helps preserve its elasticity and closed structure, preventing brittleness and breakage.
4. During assembly, avoid placing objects on the separator sheets or applying concentrated weight on a single sheet or stack.

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Storage and Handling

Store **LINQCELL ALK-PCS500** porous composite separator in a flat position, away from frost and direct sunlight, at a recommended temperature of 0–40 °C. When stored under proper conditions, the product has a shelf life of 12 months.

Handle the separator with care to avoid creases, wrinkles, contamination (e.g., oil), or scratches. Use a smooth, clean surface for support, wear rubber gloves during handling, and keep it away from sharp objects.

Please note that the provided information is based on available data and typical conditions. For specific applications and detailed test results, refer to the actual test data and conduct appropriate certifications.

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